



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/798,232	03/11/2004	Charles E. Taylor	SHPR-01360USS	3472
29190	7590	12/01/2006		
BELL, BOYD & LLOYD LLC P.O. BOX 1135 CHICAGO, IL 60690-1135				
			EXAMINER	
			SNIDER, THERESA T	
			ART UNIT	PAPER NUMBER
			1744	

DATE MAILED: 12/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/798,232

Applicant(s)

TAYLOR ET AL.

Examiner

Theresa T. Snider

Art Unit

1744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) 27-50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/9/2004, 3/25/2005</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:

I. Claims 1-26, drawn to a robot cleaner with a pad, classified in class 15, subclass 50.1.

II. Claims 27-50, drawn to a robot cleaner with an ultraviolet light, classified in class 15, subclass 339.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different designs, modes of operation, and effects (MPEP § 802.01 and § 806.06). In the instant case, the different inventions have different modes of operation.

3. Because these inventions are independent or distinct for the reasons given above and there would be a serious burden on the examiner if restriction is not required because the inventions have acquired a separate status in the art in view of their different classification, restriction for examination purposes as indicated is proper.

4. During a telephone conversation with Robert M. Gould on 11/3/2006 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-26.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 27-50 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Art Unit: 1744

5. Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

Priority

The later-filed application must be an application for a patent for an invention which is also disclosed in the prior application (the parent or original nonprovisional application or provisional application). The disclosure of the invention in the parent application and in the later-filed application must be sufficient to comply with the requirements of the first paragraph of 35 U.S.C. 112. See *Transco Products, Inc. v. Performance Contracting, Inc.*, 38 F.3d 551, 32 USPQ2d 1077 (Fed. Cir. 1994).

The disclosure of the prior-filed applications, Application Nos. 60/454,934, 60/518,756, 60/518,763, 60/526,868, 60/527,021 and 60/526,805, fail to provide adequate support or enablement in the manner provided by the first paragraph of 35 U.S.C. 112 for one or more claims of this application. The applications fail to disclose a cleaning pad.

Drawings

6. The drawings are objected to because figure 1a has 2-104s. Should the 104 directed to 'sweeper' be 114? Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement

Art Unit: 1744

drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

7. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description: 336,340(figure 3) and 906,908,910(figure 9C). Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required

Art Unit: 1744

corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

8. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: 166(0034), 162, 164(0037), 102(0046, not in figure 1B as disclosed), 170(0046), 172, 174(0047), 114(0076) and 328(0148). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

9. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because:

reference character "104" has been used to designate both processor(0089) and sweeper(0093);

reference character "120" has been used to designate both motor(0076,0101) and drive wheel(0100, 0101,0105,0106);

reference character "304" has been used to designate both remote control(0120) and user state input(0120);

reference character "316" has been used to designate both automatic control(0120) and detector(0121).

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

10. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "100"(0113) and "110"(0113) have both been used to designate robot cleaner. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

11. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Art Unit: 1744

12. The disclosure is objected to because of the following informalities:

Exemplary of such:

0022, 'bubgrid' should be replaced with 'subgrid'.

0036, 'form' should be replaced with 'from'.

0047, 'solutions' should be replaced with 'solution'.

0049, 'be modular' should be replaced with 'be a modular'.

0050, 'producers' should be replaced with 'produces'.

0053, 'On' should be replaced with 'One';

'group' should be replaced with 'grouped'.

0067 appears to missing a word.

0068, 'includes' should be replaced with 'include'.

0074, 'water energy,' should be replaced with 'water, energy'.

0098, 'he supplemental' should be replaced with 'The supplemental'.

0117, '212 input buttons' should be replaced with 'input buttons 212'.

0120, 'The 310 is' is missing a word.

0125, 'get' should be replaced with 'gets'.

0126, it is unclear as to what is meant by 'that obstacle can result'.

0130, it is unclear as to what is meant by 'With an internal...able to do.'

'excursion' should be replaced with 'excursions';

page 22, 'for region' should be replaced with 'for the region'.

0131, it is unclear as to what is meant by 'can be store';

it is unclear as to what is meant by 'first cleaned stores';

Art Unit: 1744

line 3, 'robot cleaner' needs to be deleted;

'robot vacuum' needs to be replaced with 'robot cleaner'.

0132, it is unclear as to what is meant by 'so that the use of'.

0133, 'potentially' should be replaced with 'potential'.

0138, 'dimensions' should be replaced with 'dimensions.';

'the subgrid' should be replaced with 'The subgrid'.

0143, it is unclear as to what is meant by 'to next direction'.

0144, it is unclear as to what is meant by 'proceed to move the uncleaned'.

0146, there is no 'Figure 4B'; Should it be Figure 12B?

0147, there are no 'Figures 13A and 13B'.

0148, 'is' should be inserted after 'obstacle'.

0152, it is unclear as to what is meant by 'is sub a grid map'.

0158, 'really is 12"-by12"' seems to be missing a word.

Appropriate correction is required.

Claim Objections

13. Claim 3-7 and 13 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claims 3-7 and 13 fail to further structurally limit the apparatus but define a function/method of use.

14. Claims 6-7 and 20 are objected to because of the following informalities: claims 6-7 and 20, line 1, 'of' should be inserted after 'dispensing'. Appropriate correction is required.

Claim Rejections - 35 USC § 112

15. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

16. Claims 1-26 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Exemplary of such:

Claim 1, line 2, it is unclear as to how the 'cleaning unit' can be on the robot cleaner when the robot cleaner comprises the cleaning unit;

Line 4, it is unclear as to how the 'processor' can control the robot cleaner when the robot cleaner comprises the processor; it controls itself?

line 5, 'the floor to' should be replaced with 'a floor to'.

Claim 13, line 1, 'the contact pad' lacks proper antecedent basis.

Claim 14, line 1 recites a 'method of operating a robot cleaner' however the steps appear to be drawn to a method of cleaning a floor. A step should be provided where a robot cleaner with the appropriate elements is 'provided'.

Claim 26, line 1, 'the contact pad' lacks proper antecedent basis.

Claim Rejections - 35 USC § 102

17. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

18. Claims 1-4 and 8 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kirkpatrick et al..

Kirkpatrick et al. discloses a cleaning unit having a cleaning pad that is capable of contacting a floor (fig. 17, #172).

Kirkpatrick et al. discloses a processor to control the cleaning unit (col. 13, lines 17-37).

With respect to claim 2, Kirkpatrick et al. discloses a cleaning solution dispenser (col. 16, lines 3-12).

With respect to claim 3, Kirkpatrick et al. discloses the pad wiping up solution dispensed from the dispenser (col. 18, lines 24-31).

With respect to claim 4, Kirkpatrick et al. discloses the processor controlling the dispensing of solution (col. 15, lines 31-34 and col. 18, lines 35-48).

With respect to claim 8, Kirkpatrick et al. discloses a positioning device for the cleaning pad (col. 15, lines 54-64, col. 17, lines 50-58).

19. Claims 1-4, 8, 14-17 and 21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Kirkpatrick et al..

Art Unit: 1744

Kirkpatrick et al. discloses a cleaning unit having a cleaning pad that is capable of contacting a floor (fig. 17, #172).

Kirkpatrick et al. discloses a processor to control the cleaning unit (col. 13, lines 17-37).

With respect to claims 2 and 15, Kirkpatrick et al. discloses a cleaning solution dispenser (col. 16, lines 3-12).

With respect to claims 3 and 16, Kirkpatrick et al. discloses the pad wiping up solution dispensed from the dispenser (col. 18, lines 24-31).

With respect to claims 4 and 17, Kirkpatrick et al. discloses the processor controlling the dispensing of solution (col. 15, lines 31-34 and col. 18, lines 35-48).

With respect to claims 8 and 21, Kirkpatrick et al. discloses a positioning device for the cleaning pad (col. 15, lines 54-64, col. 17, lines 50-58).

With respect to claim 14, the apparatus of Kirkpatrick et al., as disclosed above, provide for the claimed method of operating the robot.

20. Claims 1-5, 8-9, 14-17 and 21 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by WO02/062194.

WO02/062194 discloses a cleaning unit having a cleaning pad that is capable of contacting a floor (fig. 3, #1,11).

WO02/062194 discloses a processor to control the cleaning unit (page 6, lines 14-20).

With respect to claims 2 and 15, WO02/062194 discloses a cleaning solution dispenser (page 5, lines 23-29).

Art Unit: 1744

With respect to claims 3 and 16, WO02/062194 discloses the pad wiping up solution dispensed from the dispenser (page 5, lines 9-10).

With respect to claims 4 and 17, WO02/062194 discloses the processor controlling the dispensing of solution (page 11, lines 4-5).

With respect to claims 5 and 18, WO02/062194 discloses the processor detects whether a hard surface is present before dispensing solution (page 10, lines 29-32-page 11, line 9).

With respect to claims 8 and 21, WO02/062194 discloses a positioning device for the cleaning pad (page 6, lines 3-9).

With respect to claims 9 and 22, WO02/062194 discloses a floor type detector (page 7, line 24-page 8, line 3).

With respect to claims 10 and 23, WO02/062194 discloses the floor type detector being an optical detector (page 7, line 29).

With respect to claim 14, the apparatus of WO02/062194, as disclosed above, provide for the claimed method of operating the robot.

Claim Rejections - 35 USC § 103

21. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 1744

22. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

23. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

24. Claims 13 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kirkpatrick et al. as applied to claims 1 and 14, respectively above, and further in view of Wosewick et al..

Kirkpatrick et al. discloses a similar cleaner however fails to disclose the pad using static electricity.

Kirkpatrick et al. discloses the cleaning pad being a dusting cloth (col. 16, lines 38-39).

Wosewick et al. discloses a robot cleaner having a cleaning pad that uses static electricity to attract dust (0036). It would have been obvious to one of ordinary skill in the art to

provide the use of static electricity of Wosewick et al. in the cleaning pad of Kirkpatrick et al. to allow for the most effective attraction of dust to the pad.

25. Claims 6-7 and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO02/062194.

WO02/062194 discloses a similar cleaner however fails to disclose what information is input by a user.

WO02/062914 discloses the capability of a user to enter data into the processor (page 6, lines 14-20). It would have been obvious to one of ordinary skill in the art to determine the cleaner process/parameters to be controlled by user input in WO02/062914 to allow for customization by a user dependent on the condition of the surface to be treated by the cleaner.

26. Claims 11-12 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO02/062194 as applied to claims 9 and 22, respectively above, and further in view of Kirkpatrick et al..

WO02/062194 discloses a similar cleaner however fails to disclose the floor type detector being an ultrasound or mechanical detector.

Kirkpatrick et al. discloses a robot cleaner that interchangeable can use different types of detectors, optical, mechanical or ultrasound, to detect the same condition (col. 6, lines 10-15 and col. 14, lines 6-12). It would have been obvious to one of ordinary skill in the art to determine the most appropriate type of floor detector in WO02/062194 to allow for the

most effective detection given a user's location, Kirkpatrick et al. disclosing that detectors of having various modes of detection are interchangeable.

27. Claims 13 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO02/062194 as applied to claims 1 and 14 respectively above, and further in view of Wosewick et al..

WO02/062194 discloses a similar cleaner however fails to disclose the pad using static electricity.

Wosewick et al. discloses a robot cleaner having a cleaning pad that uses static electricity to attract dust (0036). It would have been obvious to one of ordinary skill in the art to provide the use of static electricity of Wosewick et al. in the cleaning pad of WO02/062194 to allow for the most effective attraction of dust to the pad.

Double Patenting

28. Applicant is advised that should claim 6 be found allowable, claim 7 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. Applicant is advised that should claim 19 be found allowable, claim 20 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

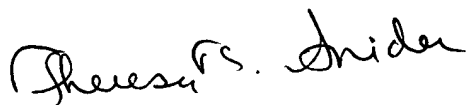
Conclusion

29. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. JP2003-190064, JP11-178765, JP2001-258806, Davis, Finch, Fisher and Aasen disclose robot cleaners with cleaning cloths.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Theresa T. Snider whose telephone number is (571) 272-1277. The examiner can normally be reached on Monday-Friday (5:30am-2:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gladys Corcoran can be reached on (571) 272-1214. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Theresa T. Snider
Primary Examiner
Art Unit 1744

11/8/06